

ATTACHMENT J01

Detroit Arsenal Electrical Distribution System

TABLE OF CONTENTS

DETROIT ARSENAL ELECTRICAL DISTRIBUTION SYSTEM	J01-1
J01 DETROIT ARSENAL ELECTRICAL DISTRIBUTION SYSTEM.....	J01-3
J01.1 DETROIT ARSENAL OVERVIEW	J01-3
J01.1.1 GENERAL STATISTICS	J01-3
J01.1.2 HISTORY AND DEVELOPMENT	J01-3
J01.1.3 SATELLITE LOCATIONS.....	J01-3
J01.2 ELECTRICAL DISTRIBUTION SYSTEM DESCRIPTION	J01-3
J01.2.1 ELECTRICAL DISTRIBUTION SYSTEM FIXED EQUIPMENT INVENTORY.....	J01-3
J01.2.1.1 System Description	J01-4
J01.2.1.2 Points of Demarcation.....	J01-5
J01.2.1.3 Condition Assessment.....	J01-7
J01.2.1.4 Inventory	J01-7
J01.2.2 ELECTRICAL DISTRIBUTION SYSTEM NON-FIXED EQUIPMENT AND SPECIALIZED TOOLS.....	J01-9
J01.2.3 ELECTRICAL DISTRIBUTION SYSTEM MANUALS, DRAWINGS, AND RECORDS	J01-10
J01.3 SPECIFIC SERVICE REQUIREMENTS.....	J01-10
J01.3.1 EXCAVATION MARKING/DIGGING PROCESS	J01-10
J01.3.1.1 Contractor Participation in Digging Permit Process.....	J01-10
J01.3.1.2 Contractor Excavation Requirements.....	J01-10
J01.3.2 EMERGENCY RESPONSE.....	J01-10
J01.3.3 RESTRICTED ACCESS	J01-11
J01.3.4 CRISIS SITUATIONS	J01-11
J01.3.5 COST OF SUPPORTING UTILITIES	J01-11
J01.4 CURRENT SERVICE ARRANGEMENT	J01-11
J01.5 SECONDARY METERING	J01-11
J01.5.1 EXISTING METERS	J01-12
J01.5.2 REQUIRED NEW SECONDARY METERS.....	J01-12
J01.6 MONTHLY SUBMITTALS	J01-13
J01.7 ENERGY SAVING PROJECTS.....	J01-13
J01.8 SERVICE AREA	J01-14
J01.9 OFF-INSTALLATION SITES	J01-14
J01.10 SPECIFIC TRANSITION REQUIREMENTS	J01-14
J01.11 GOVERNMENT RECOGNIZED SYSTEM DEFICIENCIES	J01-14

LIST OF TABLES

TABLE 1 - POINTS OF DEMARCATION	J01-6
TABLE 2 - FIXED INVENTORY.....	J01-7
TABLE 3 - EMERGENCY / STANDBY GENERATORS	J01-9
TABLE 4 - SPARE PARTS.....	J01-9
TABLE 5 - SPECIALIZED VEHICLES AND TOOLS	J01-9
TABLE 6 - MANUALS, DRAWINGS AND RECORDS.....	J01-10

TABLE 7 - HISTORICAL POWER PURCHASED FROM DETROIT EDISON.....	J01-12
TABLE 8 - EXISTING SECONDARY METERS.....	J01-12
TABLE 9 - NEW SECONDARY METERS	J01-12
TABLE 10 - SERVICE CONNECTIONS AND DISCONNECTIONS.....	J01-14
TABLE 11 - SYSTEM DEFICIENCIES	J01-15

J01 Detroit Arsenal Electrical Distribution System

J01.1 Detroit Arsenal Overview

J01.1.1 General Statistics

Established in 1940, Detroit Arsenal is home to the U. S. Army Tank-Automotive & Armaments Command (TACOM) and the Tank-Automotive Research, Development and Engineering Center (TARDEC). Located adjacent to the community of Warren, Michigan, approximately 12 miles northeast of downtown Detroit, the Arsenal is a compact military post presently consisting of approximately 20 buildings situated on about 163 acres. Detroit Arsenal's 400 military and 5,700 civilian personnel and facilities support various acquisition, research, development and testing activities which assure acceptable equipment and technologies for U.S. Army personnel.

J01.1.2 History and Development

In 1940, the U.S. Government built the tank arsenal to support the allied war effort during World War II. The tank-automotive management was moved to the Arsenal shortly thereafter. Over the years, both Chrysler and General Dynamics have operated the Detroit Army Tank Plant (DATP) and together produced over 44,000 vehicles. In 1967, the Arsenal was renamed U.S. Army Tank-Automotive Command (TACOM) and gained control over nearly all of the Army's tank-automotive systems. The DATP itself closed in the 1990s, but the management of TACOM thrives with an ever-expanding mission.

Detroit Arsenal's physical plant was reduced significantly by the Base Realignment and Closure (BRAC), which commenced in 1995. A significant portion of the Arsenal's original 300 plus acres as well as the DATP were transferred to the City of Warren Reuse Authority (CWRA) in 1999. The reconfigured Installation now consists of headquarters buildings, manufacturing research and testing laboratories, logistics offices, and various technological support facilities located on the remaining 163 acres. Although the portion of the Arsenal east of the railroad tracks was conveyed under the BRAC action, the Arsenal retained two buildings on the east side of the tracks, including a laboratory for batteries and tire research.

J01.1.3 Satellite Locations

There are no off-site installations / facilities included in this privatization action.

J01.2 Electrical Distribution System Description

J01.2.1 Electrical Distribution System Fixed Equipment Inventory

The Detroit Arsenal electrical distribution system consists of all appurtenances physically connected to the electrical distribution system between the points of demarcation separating government ownership of the system from the supplier and separating the system from end-users.

The system may include, but is not limited to, circuit breakers, transformers, circuits, protective devices, utility poles, duct banks, switches, street lighting fixtures, and other ancillary fixed equipment. The actual inventory of items sold will be conveyed to the Contractor using the Bill of Sale at the time the system is transferred.

The Government reserves the right to connect to the electrical distribution system and use the distribution system for any future cogeneration system that may be built / installed within the Arsenal's boundaries.

The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The description and inventory were developed based on best available, yet imperfect, record data.

The Offeror shall base its proposal on site inspections, information in the technical library, and other pertinent information, as well as the following description and inventory. As described in Paragraph C11.1, if after award the Offeror identifies additional substantial inventory not listed in Paragraph J01.2.1.4, the Offeror may submit to the Contracting Officer a request for an equitable adjustment. If the Offeror determines that the inventory listed in Paragraph J01.2.1.4 is overstated, the Offeror shall report the extent of the overstatement to the Contracting Officer, who will determine an equitable adjustment. The intent here is not to encourage piecemeal adjustments, but rather address significant adjustments that have significant bearing on capital replacement investments.

J01.2.1.1 System Description

The electrical distribution system at the Arsenal is inter-connected with Detroit Edison's (Edison) electrical transmission system. The transmission feeders coming from Edison are two 3-phase, 40 kV feeders. The main substation, located within the BRAC / Redeveloped Area is owned by Edison and the CWRA and operated and maintained by Edison and the U.S. Army. Edison owns the two 10 MVA power transformers and primary metering equipment and the CWRA owns the remaining equipment located within the main substation. The 40 kV incoming voltage is stepped down to 4.8 kV, which is the primary voltage for the distribution system. The Arsenal operates and maintains all of the equipment downstream from the main transformer low-side bushings. This includes an outdoor switchgear building which houses two 2,000-amp bus arrangements with a total of 18 metal-clad circuit breakers, two of which are dedicated as incoming feeder breakers from Edison's power transformers.

As previously noted, the Arsenal was reconfigured with the BRAC action, which commenced in 1995. A significant portion of the Arsenal facilities located east of the railroad track (including the DATP), along with the utility infrastructure which serves these facilities, was conveyed to City of Warren under the BRAC process. However, the Arsenal retained Building Nos. 7 and 8 on the east side of the railroad tracks, which house a laboratory for batteries and tire research. Although the Army no longer owns the utility infrastructure which serves these two buildings (these components will not be included in the inventory), the Government retained responsibility for the operation and maintenance of the main substation and the distribution facilities which serve the two Army-retained buildings located within the BRAC area. As a result, the Contractor will be responsible for the operation and maintenance of the main substation as well as the distribution infrastructure.

As a result of the BRAC action, some of the facilities included in the BRAC action (i.e., a large tank manufacturing facility, Building No. 4) were removed from the electrical distribution system of the Arsenal, freeing up a number of the electrical switchgear / circuit breakers in the main substation. The availability of these circuit breakers has allowed the Arsenal to install three new feeders and several new transformers to serve the Main Cantonment area west of the railroad tracks. The Arsenal attempted to leave the existing substation as a part of the BRAC action with anticipation of building a new substation on the west side of the railroad track in the Main Cantonment area. Although the Arsenal received a \$5.0 to \$5.5 million estimate from Edison to build a new 36 MVA substation containing two 18 MVA power transformers (as well as the new underground cable needed to connect the new substation to the existing distribution system), the plans for the new substation have been on-hold pending the funding of this potential project.

The Arsenal's distribution system, consisting of all underground feeders, originates from the switchgear building in the main substation. These distribution feeders are redundant. There is a bus-tie breaker and the electrical hookup is double ended such that the feeders may be fed from either side of the bus. All of the feeders are installed in concrete encased duct banks with manholes.

The facilities at the Arsenal consist of laboratories, manufacturing facilities, test areas and administrative buildings. The facilities include a large amount of indoor equipment (motors, machines, large transformers and distribution centers), which requires primary voltage for energy supply. There are multiple primary load / distribution points inside buildings at the Arsenal. This may be of significance to the privatization efforts since some utilities may not want to accept responsibility for primary voltages and equipment located inside buildings. These facilities have been included in this system evaluation.

Street lighting, which is fed from panels within the nearby buildings, is specifically excluded from the Detroit Arsenal electrical distribution system privatization action. However, the new switchgear, lighting circuits and the 24 light poles and fixtures, which provide perimeter/area lighting, will be included in the privatization action.

J01.2.1.2 Points of Demarcation

The point of demarcation is defined as the point on the system where ownership changes from the Grantee to the building owner. The system consists of all components from the point where Detroit Arsenal takes ownership from the supplier to the point where service is delivered to end-users.

TABLE 1**Points of Demarcation***Electrical Distribution System - Detroit Arsenal, Warren, Michigan*

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the transformer secondary terminal spade.	Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists.	
Down current side of the meter.	Residential service (less than 200 amps and 240V 1-Phase), and three phase self contained meter installations. Electric Meter exists within five feet of the exterior of the building on an underground secondary line.	
Point of demarcation is the meter.	Three Phase CT metered service.	
Secondary terminal of the transformer inside of the structure.	Transformer located inside of structure and an isolation device is in place with or without a meter. Note: Utility Owner must be granted 24-hour access to transformer room.	
Secondary terminal of the transformer inside of the structure.	Transformer located inside of structure with no isolation device in place. Note: Utility Owner must be granted 24-hour access to transformer room.	

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the meter.	Electric meter is connected to the exterior of the building on an overhead secondary line.	<p>Labels: Service Line, Pole Mounted Transformer, Utility Pole, Structure, Point of Demarcation, Meter</p>
Point of demarcation is the point where the overhead conductor is connected to the weatherhead.	Pole Mounted Transformer located outside of structure with secondary attached to outside of structure with no meter.	<p>Labels: Service Line, Pole Mounted Transformer, Utility Pole, Structure, Point of Demarcation</p>
Point of demarcation is the point where the overhead conductor is connected to the weatherhead.	Service may be overhead or underground. A disconnect switch or junction box is mounted to the exterior of the structure with no meter.	<p>Labels: Service Line, Pole Mounted Transformer, Utility Pole, Structure, Point of Demarcation, Disconnect or Junction Box</p>

J01.2.1.3 Condition Assessment

As detailed in Section J01.2.1.4, the Arsenal's electrical distribution system is not new. The general condition of the system is commensurate with an underground electrical distribution system of this age.

J01.2.1.4 Inventory

Table 2 provides a general listing of the major system fixed assets for the Detroit Arsenal electrical distribution system included in the purchase. The system will be sold in an "as is, where is" condition without any warrant, representation, or obligation on the part of the Government to make any alterations, repairs, or improvements. All ancillary equipment attached to and necessary for operating the system, though not specifically mentioned herein, is considered part of the purchased utility.

TABLE 2

Fixed Inventory

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Item	Size	Approx. Quantity	Units	Approximate Year of Installation
<u>Underground Lines</u>				
3 Phase – Large		3.523	Miles	1973

Item	Size	Approx. Quantity	Units	Approximate Year of Installation
3 Phase – Small		0.623	Miles	1971
1 Phase		--	Miles	--
Duct Banks		1.436	Miles	1973
Manholes		30	Each	1974
Sectionalizing Switches		32	Each	1977
Secondary Lines		0.829	Miles	1972
<u>Transformers - Pad Mount</u>				
3 Phase – 112.5 kVA & smaller		4	Each	1975
3 Phase – 150 kVA		3	Each	1975
3 Phase – 225 kVA		3	Each	1975
3 Phase – 300 kVA		4	Each	1982
3 Phase – 500 kVA		10	Each	1983
3 Phase – 750 kVA		12	Each	1975
3 Phase – 1,000 kVA		1	Each	1975
3 Phase – 1,500 kVA		2	Each	1975
3 Phase – 2,000 kVA		1	Each	1975
3 Phase – 2,500 kVA		4	Each	1988
Total Transformers		44		
<u>Perimeter Lighting</u>				
Poles and Fixtures		24	Each	2005
Underground Lighting Line		0.909	Miles	2005
New Switchgear		1	Each	2005
<u>Services</u>				
3 Phase		10	Each	1985
1 Phase		6	Each	1975

The critical loads within the Arsenal have emergency / backup generators, which will not be part of this potential privatization action. Since the generators provide emergency / backup power to the noted building / facilities, the ownership, operation and maintenance of these generators will remain with the Government. The Arsenal's emergency / backup generators are listed in the following table:

TABLE 3

Emergency / Standby Generators

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Bldg. No.	Description	No. of Units	Total Capacity	Manufacturer
205	Fire Dept., Police Operations & Facilities Engineer	1	75 kW	Kohler
229	PEOs, Program Offices, Installation & Services	1	200 kW	MEP
230	HQ TACOM, Maintenance & MILPO	3	900 kW	Generac
230	Room 128, Secure Room	1	50 kW	Kohler
232	Public Safety Office, Provost Marshall	1	60 kW	Kohler
233	Counterintelligence, Command Security	1	180 kW	Cummins

J01.2.2 Electrical Distribution System Non-Fixed Equipment and Specialized Tools

Table 4 lists other ancillary equipment (spare parts), and **Table 5** lists specialized vehicles and tools included in the purchase. Offerors shall field-verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 4

Spare Parts

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Quantity	Item	Make/Model	Description	Remarks
None				

No spare parts for maintenance of the Arsenal electrical distribution system will be available to the new owner of the system. The Army does not maintain an inventory of spare parts for the system.

TABLE 5

Specialized Vehicles and Tools

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Quantity	Item	Make/Model	Description	Remarks
None				

J01.2.3 Electrical Distribution System Manuals, Drawings, and Records

Table 6 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 6

Manuals, Drawings and Records

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Quantity	Item	Description	Remarks
Available manuals, drawings, records, and reports included in the Technical Library will be transferred with the utility system.			

J01.3 Specific Service Requirements

The service requirements for the Arsenal's electrical distribution system are as defined in Paragraph C, *Description/Specifications/Work Statement*. The following requirements are specific to the electrical distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Paragraph C, the requirements listed below take precedence over those found in Paragraph C.

J01.3.1 Excavation Marking/Digging Process

J01.3.1.1 Contractor Participation in Digging Permit Process

Contractor shall subscribe to the regional process for notification and marking of underground utilities. The Contractor shall mark all utilities in the time windows defined by this process. In some cases, where non-metallic lines do not have tracer wires, it may take longer to locate the lines. In these cases, the Contractor will make necessary notifications about a possible delay in the marking process. Contractor shall be responsible for all repairs, costs, and damages due to excavations by others for which he did not properly mark his utilities as part of the utility marking process. Generally, utility lines will be marked with pin flags or spray paint.

J01.3.1.2 Contractor Excavation Requirements

Contractor shall notify the regional one-call dispatch center of his digging requirement. The Contractor shall also obtain digging permits from the Arsenal before any drilling, digging, or excavation is undertaken. Permits will identify all underground utilities within five feet of the designated area. Since utility marking is an inherently imprecise process, excavation within five feet of the marked utilities will be done by hand. Contractor shall be responsible for all repairs, costs, and damages due to his excavations that fail to comply with the DPW digging permit process and the requirements listed herein; this includes excavations extending beyond areas that have been cleared for excavation.

J01.3.2 Emergency Response

Because of the critical nature of many mission requirements, response to utility emergencies must be immediate. The Contractor will respond with a knowledgeable individual to emergency utility problems within 30 minutes of notification during duty hours and within 2 hours during

non-duty hours. Additionally, repair crews must be on scene within one hour during duty hours and within two hours during non-duty hours.

J01.3.3 Restricted Access

The Contractor shall coordinate and obtain approval for restricted area access.

J01.3.4 Crisis Situations

IAW Paragraph C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the Contractor shall provide support as directed by the BaseOps Office at (586) 574-5326 during duty hours and (586) 574-5534 during non-duty hours for exercises and crisis situations. Contractor shall submit Emergency Response Plans for approval by the Government for all Exercise and Crisis situations IAW C.9.8.

J01.3.5 Cost of Supporting Utilities

Contractor shall fully cooperate with the Government with respect to energy / water conservation measures as described in Section C.3.4.

J01.4 Current Service Arrangement

The Arsenal currently uses government-owned facilities and resources to provide the electrical distribution utility service of the electric power purchased from Detroit Edison Company (Edison). Edison, which is a subsidiary of DTE Energy (one of the nation's largest electric utilities) currently serves the Arsenal's electric power requirements through two 3-phase 40 kV feeders. The Arsenal currently purchases roughly 33,000 MWh of electric power per year under Edison's Primary Supply Rate D6 and Large General Service Rate D4. The generation / supply of the electric industry is not deregulated within the State of Michigan. As such, the supply of the commodity (i.e., electrons) is not included in this privatization action. The historical power purchases from Edison are summarized in Table 7.

TABLE 7

Historical Power Purchases from Detroit Edison
Electrical Distribution System - Detroit Arsenal, Warren, Michigan

	Rate D6 (kWh)	Rate D6- Rider (kWh)	Rate D4		Total (kWh)
			Bldg 252 (kWh)	Bldg 232 (kWh)	
2002	29,480,148	1,460,652	457,040	104,195	31,502,035
2003	32,027,332	1,735,868	399,048	109,904	34,272,152
2004	31,175,801	1,740,665	339,360	110,088	33,365,914

J01.5 Secondary Metering

Between the point of delivery and the end-user points of demarcation, the Contractor shall own the existing meters and shall install additional meters at new and upgraded locations as directed by the Contracting Officer. Contractor shall install or cause to have installed utility meters as requested by the Contracting Officer in keeping with the guidance in Section C.3.3

The Arsenal requires secondary meters for internal billings of their reimbursable customers (i.e., TARDEC, TACOM, etc.), utility usage management, and energy conservation monitoring. The Offeror shall assume full ownership and responsibility for existing and future secondary meters IAW Paragraph C.3. The Offeror shall provide meter readings once a month for all secondary meters IAW paragraphs C.3. The Offeror shall install and calibrate new secondary meters IAW Paragraph C.13, *Operational Transition Plan*. After installation, the Offeror shall maintain and read these meters IAW Paragraph C.3.

J01.5.1 Existing Meters

Table 8 lists the existing (at the time of contract award) meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3.3, *Metering*, and J01.6, *Monthly Submittals*.

TABLE 8
Existing Secondary Meters
Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Facility	Building No.	Meter Number
Automotive Power & Telematics Lab	200C	--
Propulsion System Facility	212	--

J01.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 9**. New secondary meters shall be installed IAW Paragraphs C.3.3.1, *Future Meters*, and C.13, *Operational Transition Plan*. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3.3, *Metering*, and J01.6 below.

TABLE 9
New Secondary Meters
Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Facility	Building No.	Sq. Footage
Battery & Tire Labs	7	58,234
Adm. General Purposes (Café & Auditorium)	200B	50,591
Lab & Testing General Purposes	200C	82,265
Experimental Labs	200D	112,544
SSC Store Logistics Division Raytheon	203	80,082
Propulsion System	212	119,479
Cray Computer Area	215	46,702
Warehouse	249	51,630

J01.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. **Invoice.** (IAW Paragraph G.2, *Submission and Payment of Invoices*). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. The Contractor shall provide sufficient supporting documentation with each monthly invoice to substantiate all costs included in the invoice for each CLIN as approved by the Contracting officer. The proposed system of accounts shall be made available in electronic format as directed by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

Name: Ms. Fran Dolata
Address: 6501 Eleven Mile Road
Building 231, Mail Stop 322
Warren, MI 48397
Phone number: (586) 574-7144

2. **Outage Report.** The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

Name: Mr. Mohammed Ikram
Address: 6501 Eleven Mile Road
Building 205, Mail Stop 117
Warren, MI 48397
Phone number: (586) 574-5182

3. **Meter Reading Report.** The monthly meter reading report shall show the current and previous month's readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

Name: Ms. Florence Trevino
Address: 6501 Eleven Mile Road
Building 205, Mail Stop 117
Warren, MI 48397
Phone number: (586) 574-6615

J01.7 Energy Saving Projects

IAW Paragraph C.3.4, *Energy and Water Efficiency and Conservation*, the following projects have been implemented by the Government for conservation purposes.

- Energy conservation projects under the title ESPC will be implemented in 2005.

J01.8 Service Area

IAW Paragraph C.4, *Service Area*, the service area is defined as all areas within the boundaries of the Arsenal.

J01.9 Off-Installation Sites

As described in earlier paragraphs, there are no off-site installations / facilities included in this privatization action.

J01.10 Specific Transition Requirements

IAW Paragraph C.13, *Operational Transition Plan*, **Table 10** provides a list of service connections and disconnections required upon transfer.

TABLE 10
Service Connections and Disconnections
Electrical Distribution System - Detroit Arsenal, Warren, Michigan

Location	Description
None	

J01.11 Government Recognized System Deficiencies

Table 11 provides a list of Government recognized deficiencies. The deficiencies listed may be physical deficiencies, functional deficiencies, or operational in nature. If the utility system is sold, the Government will not accomplish a remedy for the recognized deficiencies listed. The Offeror shall make a determination as to its actual need to accomplish and the timing of any and all such deficiency remedies.

Physical and functional deficiencies may require capital to be invested in the system. If any deficiency remedy requires a capital upgrade project, the capital upgrade project shall be proposed according to the following:

- Capital upgrade projects required to bring the system to standard shall be proposed under Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Capital upgrade projects required to replace system components shall be proposed in the first years of Schedule 2 – Renewals and Replacements – 50-Year Schedule, and the cost factored into Schedule 1 – Fixed Monthly Charge, for renewals and replacements, as part of CLIN AA.
- Transition costs shall be proposed as a one-time cost and shall be treated similar to a capital project and included in Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Improvements proposed in the operational component of the work shall be included in Schedule 1 – Fixed Monthly Charge as part of CLIN AA.

TABLE 11

System Deficiencies

Electrical Distribution System - Detroit Arsenal, Warren, Michigan

System Component	Deficiency Description
Entire Base	The electrical distribution line from the main substation to Building No. 212 will be replaced in 2005. The electrical distribution line from the main substation to Building Nos. 210 and 212 (PAISI) was replaced in 2000. The remaining electrical distribution lines are at the end of their expected life.
Main Substation	The main substation is located within the new Industrial Park developed by the CWRA, owned by Edison and the City of Warren and operated and maintained by the Arsenal. Due primarily to security issues, the Arsenal plans to construct a new main substation (and required underground cables) within the Arsenal's existing boundaries.